



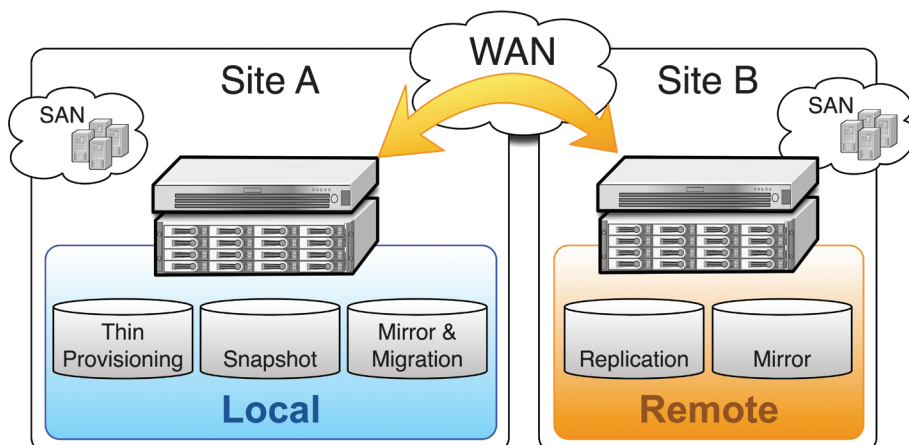
PROMISE VTrak S3000

Data Storage Service Appliance

The PROMISE VTrak S3000 delivers high performance data services to the enterprise proven VTrak E-Class RAID subsystem using hardware virtualization. Hardware virtualization has blurred the lines between physical hardware and the services they provide. With processing power advancing in all areas of computing including storage, businesses are no longer bound to the limits of a single physical server or storage subsystem. Virtualization of server and storage has accelerated problem solving by allowing administrators to easily deploy and manage available resources using simplified, virtual representations in software, like the storage virtualized by VTrak S3000.

VTrak Benefits:

- Centralize Management
- Increase Storage Utilization
- Aggregate Performance
- Simplify Capacity Growth
- Enable Multi-Site Continuity



High Availability

VTrak S3000 features powerful hardware supporting fail-over and fail-back capabilities across local or remote storage nodes. Administrators can confidently share VTrak S3000 storage resources matching desired performance and capacity profiles. The ability to provision storage to fit any application is only the beginning. Built-in data protection features safeguard user data, providing business continuity and rapid disaster recovery. Features like application-aware snapshots work with virtual and physical server based applications to insure services restart without error. DeltaScan, the built in replication feature, enables change-data to be copied efficiently to a secondary site, providing foolproof availability across geographic regions.

VTrak S3000 - 1U Rack Mount Data Services Appliance

VTrak S3000 starts with Dual 1Gb iSCSI ports

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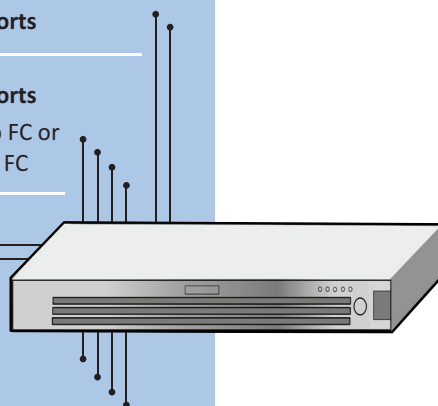
- Four port 1Gb iSCSI or
- Four port 8Gb FC or
- Two port 10Gb iSCSI or
- Two port 8Gb FC

Dual 1G Ethernet ports

- One for VTrak S3000 management
- One for Node-to-Node communication

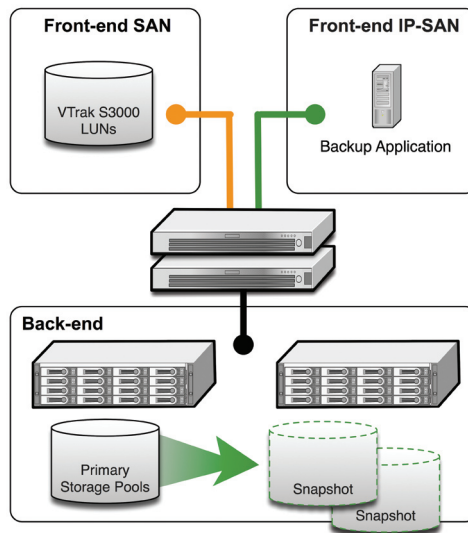
Downstream Storage Interface Options:

- Sixteen port 6Gb SAS or
- Four port 8Gb FC or
- Two port 8Gb FC



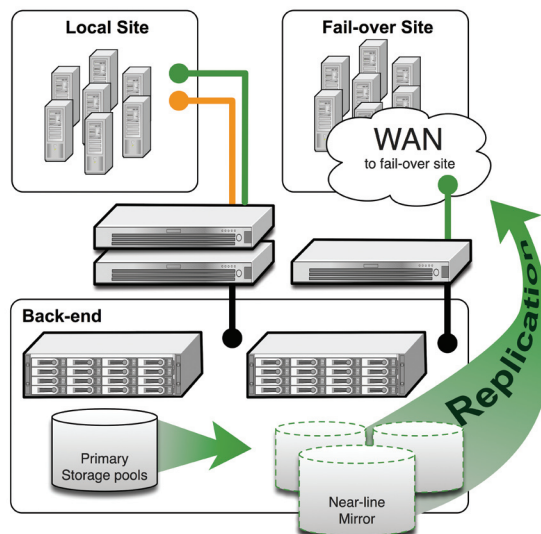
IP-SAN Flexibility

Every VTrak S3000 includes two 1G iSCSI ports to increase connectivity and availability. No longer must data be re-shared through a server to backup or replicate SAN data to a secondary site or tape library. Using the VTrak S3000 server-less backup capabilities administrators can snapshot, mirror or even replicate data on the back-end. Then if required the data can be moved directly over a separate Ethernet connection without utilizing the front-end production network or SAN. An optional backup module called BackTrak enables VTrak S3000 backups to be managed from popular backup applications, like BakBone's NetVault and Symantec NetBackup.



High Performance Replication

For large high traffic sites a third VTrak S3000 can be configured locally with the redundancy pair. This node works as focal point for near-line mirroring and site replication tasks providing dedicated performance for business continuity. Deploying VTrak S3000 this way improves data availability to streamline automation for site fail-over and fail-back procedures.



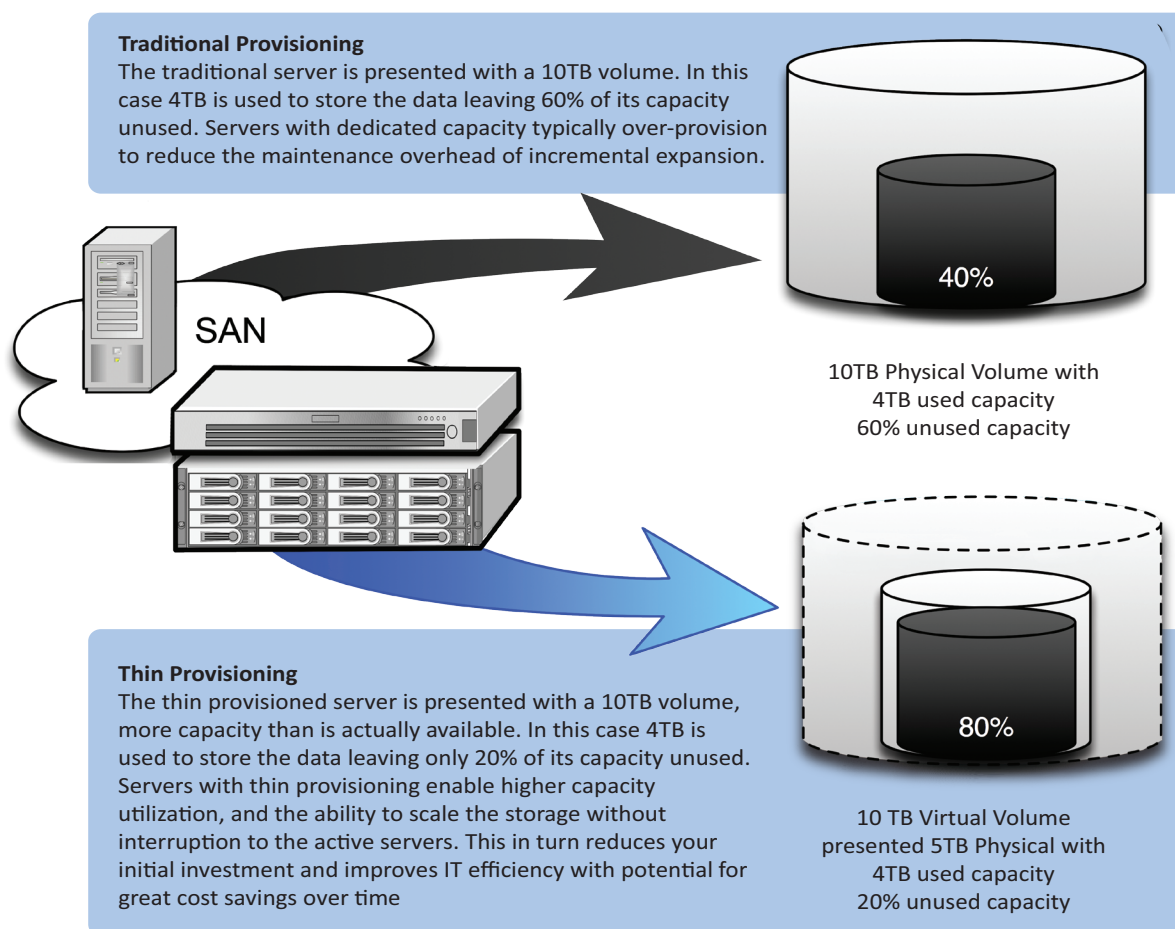
Attractive Price Structure

From a top-level management perspective, Total Cost of Ownership (TCO) and Return On Investment (ROI), are two of the most important acronyms associated with IT. The PROMISE VTrak S3000 solution delivers value on both fronts offering an attractive pricing structure and data management capabilities that improve an IT organization's efficiency.

The VTrak S3000 appliance enables enterprises of all sizes to benefit from improved data management. VTrak S3000 offers options for high performance upstream and downstream connectivity to fit a wide variety of capacity and performance profiles. VTrak S3000 pools storage into a centralized resource, simplifying administrative tasks and accelerating an organizations ability to meet changing requirements.

Thin Provisioning

VTrak S3000 has thin provisioning capabilities that allow administrators to maintain optimal utilization of storage capacity, providing improved cost savings over time compared to dedicated capacity. With thin provisioning, capacity presented to the host is larger than physically available, allowing for expansion tasks to occur without interrupting active hosts. VTrak S3000 provisioning features allow storage to be dynamically scaled, redistributed, load-balanced and migrated to new storage devices should the need arise.



PROMISE has identified the following storage environments that are uniquely served by the powerful VTrak S3000 feature set:

- Virtual Server
- Cloud Computing/Datacenter
- Site Fail-over/Fail-back Business Continuity

VTrak S3000 Applications

PROMISE takes pride in our ability to understand the latest mission-critical environments to support the needs of our enterprise customers. This includes the ability to solve common challenges associated with popular storage-centric applications. Powerful virtualization technology allows VTrak S3000 to be tuned and optimized to fit almost any storage application.

Cloud / Datacenter

VTrak S3000 Benefits for Cloud Computing and Datacenter Environments

- Supports scale-up and scale-out architectures
- Flexible front-end and back-end connectivity, tailor to fit requirement
- Large cache and SSD support to maximize high IOP transactional environments
- Performance tuning with HyperCache
- DeltaScan highly optimized remote replication

The typical data center must minimize costs to be competitive. Historically large online operations have relied on economies of scale to offset the expense of monolithic and vendor managed storage deployments. Today even the largest industry leaders are moving to innovative lower-cost self-managed solutions to improve profitability. To meet this requirement the PROMISE VTrak S3000 provides advanced data service features for enterprise high availability and business continuity. The centralized management capabilities and attractive price structure improve capital and operating costs.

Provisioning

From the host side VTrak S3000 can display targets to meet any environment. Access is controlled using initiator based mapping/masking providing physical hardware security even through public switch/zones.

VTrak S3000

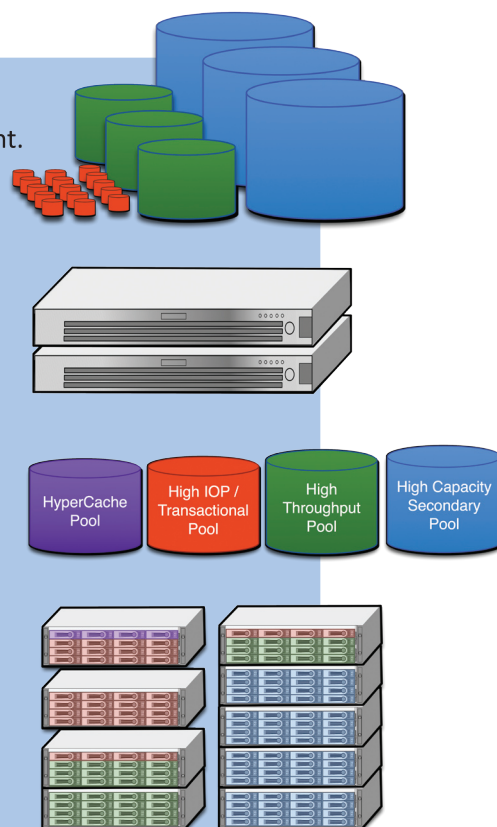
Flexible SAN and IP SAN connectivity allows for secondary IP based applications to run on a completely different SAN. Separate networks improve host connectivity and availability during the busiest hours.

Storage Pools

Pooling storage by class simplifies how administrators think about storage. By removing the physical/mechanical element, utilization, capacity and growth rates of different segments are easier to identify and manage

Physical Storage

VTrak E-Class Storage is an enterprise proven RAID solution with high availability, massive scalability and performance. Flexible SAS/SATA drive support includes support for the latest high performance solid state drives, allowing the creation of a high performance HyperCache to skyrocket read and write performance for mission critical tasks.

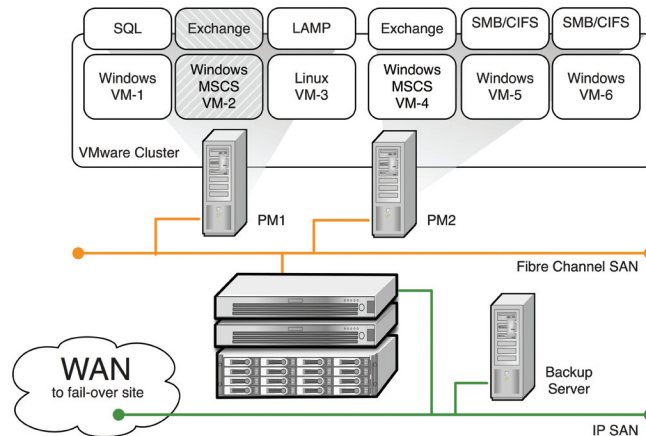


Scalability, Flexibility and Manageability

VTrak S3000 is very flexible. Two units can be connected creating a redundancy pair. Capacity can be deployed and scaled efficiently across multiple servers and geographic regions. Legacy storage devices can be migrated to high performance virtual storage, eliminating islands of unused capacity.

To put it simply, VTrak S3000 improves an organizations ability to meet changing demands through hardware consolidation and pooling of resources.

Most organizations today operate from multiple locations, making it imperative that data be replicated across locations for business continuity and disaster recovery. With VTrak S3000 DeltaScan technology only the highly compressed changes need to be replicated to remote sites. Change information is sent with full encryption enabling the use of public or private WAN connections. Failover/failback capabilities allow local day-to-day operations to failover to the remote site in the event of a disaster.



Virtual Server

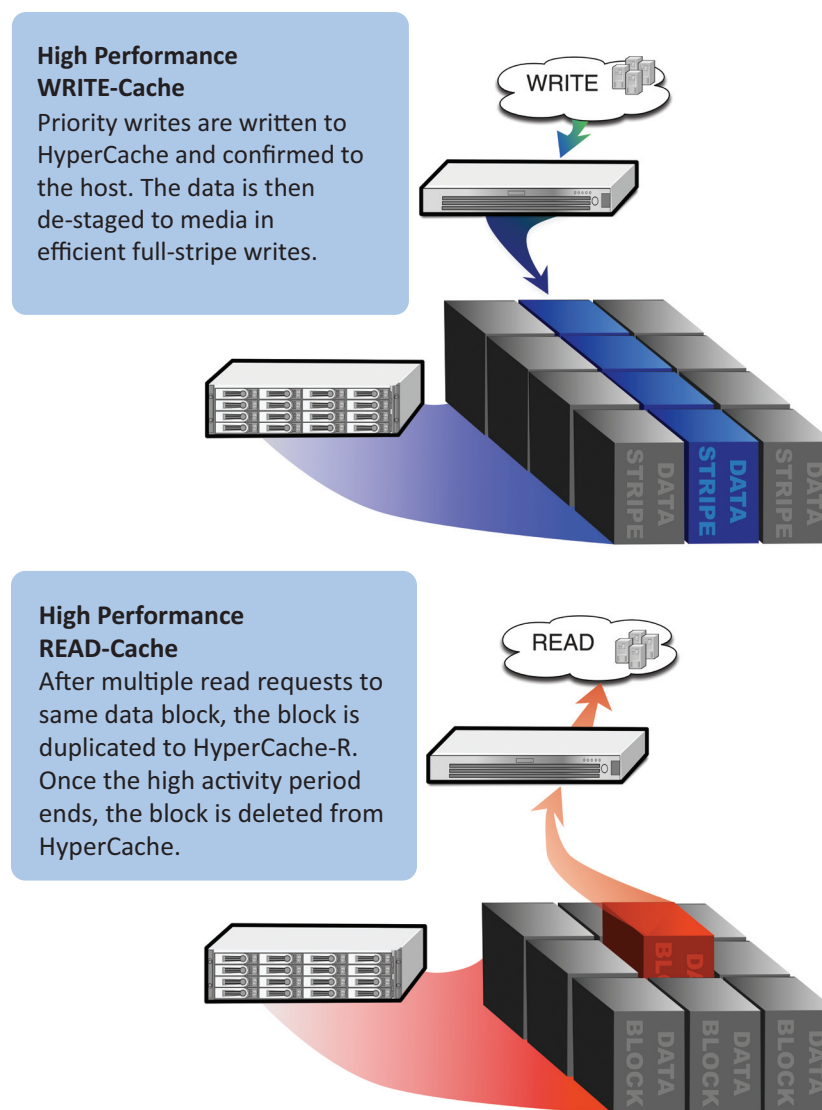
VTrak S3000 Benefits for Virtual Server Environments

- End-to-end vSphere and Hyper-V support
- P2V and V2V multi-site support
- Provision storage to meet any class
- Application-aware snapshot
- Tight integration with Site Recovery Manager and Consolidated Backup

Server virtualization can present technical challenges for storage. Consolidating the usual suite of enterprise applications onto virtual machines can introduce resource contention at the physical level on both the physical machine and the storage platform. VTrak S3000 gives users the ability to create pools of virtual storage across physical hardware. This gives administrators the power to create and deploy unique application specific storage pools, alleviating resource barriers of small storage silos. Traffic across virtual disks can be balanced across ports and datastores. VTrak S3000 can even be provisioned with massive shared capacity while maintaining optimal data placement on the physical media.

HyperCache Acceleration

To address high consolidation ratios, VTrak S3000 offers a simple way to optimize shared centralized storage called HyperCache. HyperCache can be configured to solve targeted read or write performance independently. HyperCache-W is used to cache writes for the busiest servers. HyperCache-R identifies individual blocks that require more availability duplicating them to faster dedicated media. HyperCache is deployed using a resource pool strategy enabling dynamic provisioning using high performance SAS drives or SSD.



Promise Expertise

The PROMISE VTrak S3000 offers enterprise environments a simple way to address some of the toughest storage challenges. The built in business continuity features and highly scalable architecture means that small remote offices as well as corporate online resources can use the same cost effective solution across geographic regions. When it's time to deploy, PROMISE application experts are available to help you get the most out of your enterprise-class application including sample configurations scripts to optimize storage resources for specific profiles.

VTrak S3000 Details

Part Number	UPC	Upstream Host	Downstream Device	Secondary Host
VTS3K1G4S	704118-063611	6x 1G iSCSI	4x 6G SAS-wide (16 lanes)	NA
VTS3K10G4S	704118-063710	2x 10G iSCSI	4x 6G SAS-wide (16 lanes)	2x 1G iSCSI
VTS3K2F4S	704118-063819	2x 8G Fibre Channel	4x 6G SAS-wide (16 lanes)	2x 1G iSCSI
VTS3K4F4S	704118-064014	4x 8G Fibre Channel	4x 6G SAS-wide (16 lanes)	2x 1G iSCSI
VTS3K2F2F	704118-063918	2x 8G Fibre Channel	2x 8G Fibre Channel	2x 1G iSCSI
VTS3K4F4F	704118-064113	4x 8G Fibre Channel	4x 8G Fibre Channel	2x 1G iSCSI

Warranty

VTrak S3000 is backed by the standard PROMISE 3-year limited warranty which includes 24/7 phone and email support by our legendary support team. Extended warranty and PROMISE ServicePlus on-site services are available on a contract basis, providing peace of mind, and rapid parts replacement in as little as 4-hours in many US cities.

For more information, please visit Promise on the web at: www.promise.com.

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